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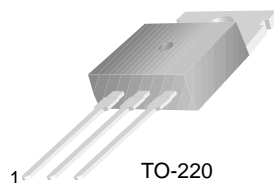
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BDX34/A/B/C

Power Linear and Switching Applications

- High Gain General Purpose
- Power Darlington TR
- Complement to BDX33/33A/33B/33C respectively



TO-220
1.Base 2.Collector 3.Emitter

PNP Epitaxial Silicon Transistor

Absolute Maximum Ratings $T_C=25^\circ\text{C}$ unless otherwise noted

| Symbol | Parameter | Value | Units |
|-----------|--|------------|------------------|
| V_{CBO} | Collector-Base Voltage | | |
| | : BDX34 | - 45 | V |
| | : BDX34A | - 60 | V |
| | : BDX34B | - 80 | V |
| | : BDX34C | - 100 | V |
| V_{CEO} | Collector-Emitter Voltage | | |
| | : BDX34 | - 45 | V |
| | : BDX34A | - 60 | V |
| | : BDX34B | - 80 | V |
| | : BDX34C | - 100 | V |
| I_C | Collector Current (DC) | - 10 | A |
| I_{CP} | *Collector Current (Pulse) | - 15 | A |
| I_B | Base Current | - 0.25 | A |
| P_C | Collector Dissipation ($T_C=25^\circ\text{C}$) | 70 | W |
| T_J | Junction Temperature | 150 | $^\circ\text{C}$ |
| T_{STG} | Storage Temperature | - 65 ~ 150 | $^\circ\text{C}$ |

Electrical Characteristics $T_C=25^\circ\text{C}$ unless otherwise noted

| Symbol | Parameter | Test Condition | Min. | Typ. | Max. | Units |
|----------------|---|---|-------------------------------|------|----------------------------------|----------------------|
| $V_{CEO(sus)}$ | * Collector-Emitter Sustaining Voltage : BDX34 : BDX34A : BDX34B : BDX34C | $I_C = -100\text{mA}, I_B = 0$ | - 45 - 60 - 80 - 100 | | | V V V V |
| $V_{CER(sus)}$ | * Collector-Emitter Sustaining Voltage : BDX34 : BDX34A : BDX34B : BDX34C | $I_C = -100\text{mA}, I_B = 0$ $R_{BE} = 100\Omega$ | - 45 - 60 - 80 - 100 | | | V V V V |
| $V_{CEV(sus)}$ | * Collector-Emitter Sustaining Voltage : BDX34 : BDX34A : BDX34B : BDX34C | $I_C = -100\text{mA}, I_B = 0$ $V_{BE} = -1.5\text{V}$ | - 45 - 60 - 80 - 100 | | | V V V V |
| I_{CBO} | Collector Cut-off Current : BDX34 : BDX34A : BDX34B : BDX34C | $V_{CB} = -45\text{V}, I_E = 0$ $V_{CB} = -60\text{V}, I_E = 0$ $V_{CB} = -80\text{V}, I_E = 0$ $V_{CB} = -100\text{V}, I_E = 0$ | | | - 0.2 - 0.2 - 0.2 - 0.2 | mA mA mA mA |
| I_{CEO} | Collector Cut-off Current : BDX34 : BDX34A : BDX34B : BDX34C | $V_{CE} = -22\text{V}, I_B = 0$ $V_{CE} = -30\text{V}, I_B = 0$ $V_{CE} = -40\text{V}, I_B = 0$ $V_{CE} = -50\text{V}, I_B = 0$ | | | - 0.5 - 0.5 - 0.5 - 0.5 | mA mA mA mA |
| I_{EBO} | Emitter Cut-off Current | $V_{EB} = -5\text{V}, I_C = 0$ | | | - 5 | mA |
| h_{FE} | * DC Current Gain : BDX34/34A : BDX34B/34C | $V_{CE} = -3\text{V}, I_C = -4\text{A}$ $V_{CE} = -3\text{V}, I_C = -3\text{A}$ | 750 750 | | | |
| $V_{CE(sat)}$ | * Collector-Emitter Saturation Voltage : BDX34/34A : BDX34B/34C | $I_C = -4\text{A}, I_B = -8\text{mA}$ $I_C = -3\text{A}, I_B = -6\text{mA}$ | | | - 2.5 - 2.5 | V V |
| $V_{BE(on)}$ | * Base-Emitter ON Voltage : BDX34/34A : BDX34B/34C | $V_{CE} = -3\text{V}, I_C = -4\text{A}$ $V_{CE} = -3\text{V}, I_C = -3\text{A}$ | | | - 2.5 - 2.5 | V V |
| V_F | * Parallel Diode Forward Voltage | $I_F = -8\text{A}$ | | | - 4 | V |

* Pulse Test: PW=300 μs , duty Cycle =1.5% Pulsed

Typical Characteristics

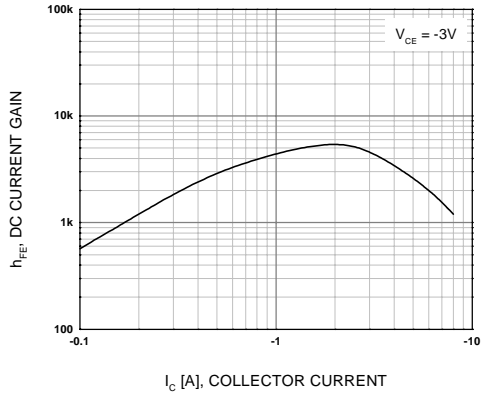


Figure 1. DC Current Gain

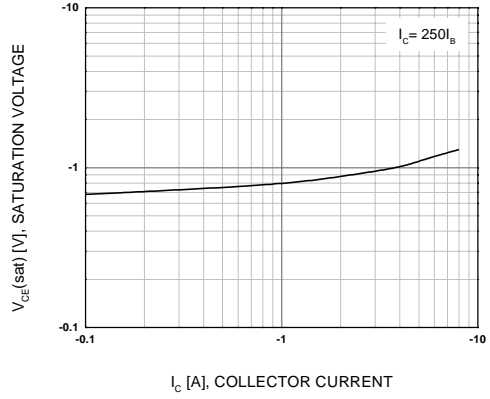


Figure 2. Collector-Emitter Saturation Voltage

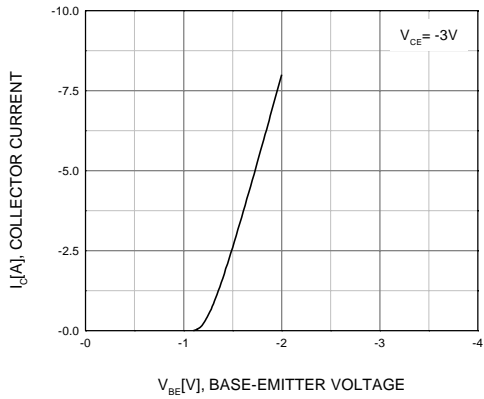


Figure 3. Base-Emitter On Voltage

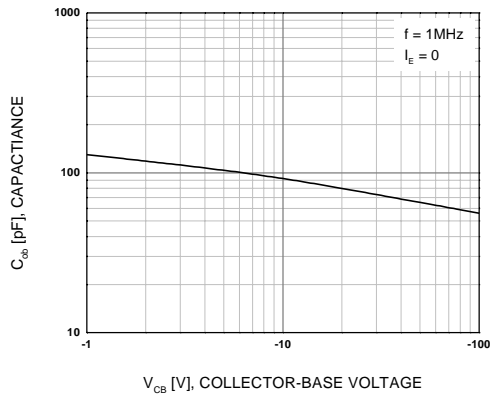


Figure 4. Output Capacitance

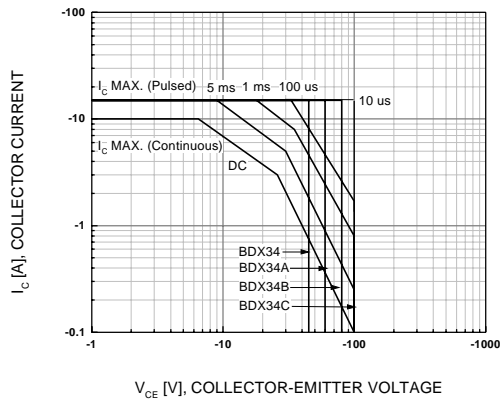


Figure 5. Safe Operating Area

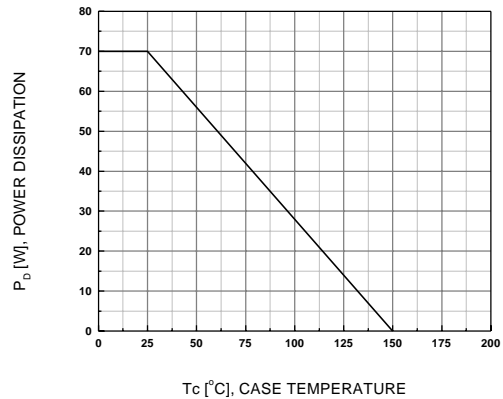
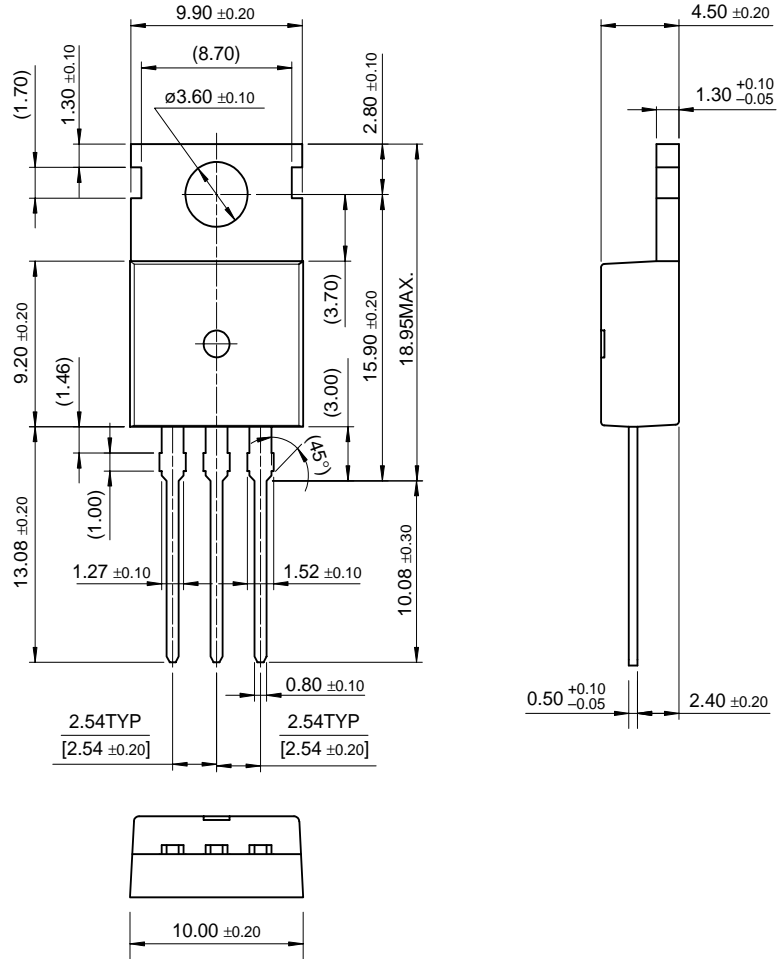


Figure 6. Power Derating

Package Dimensions

TO-220



Dimensions in Millimeters

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